TABLE 4.—*Comparison of the meteorological conditions, etc.*,—Continued.

LOWEST TEMPERATURE.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	°	°	°	°	°	°	°	°	°	°	°	°
Yuma	22	25	31	38	44	52	61	60	50	41	31	24
Mammoth . :	27	38	40	32	40	52	60	52	52	53	28	25
Indio........	23	38	39	42	43	62	69	67	48	40	28	20
Carson City (Reno.)	—22	—14	10	16	22	27	35	34	18	17	7	— 7

MEAN PRECIPITATION.

Stations.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Ins.	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*	*Ins.*
Yuma	0.40	0.50	0.30	0.10	T.	T.	0.10	0.30	0.10	0.20	0.30	0.40
Mammoth...	0.00	1.40	T.	1.40	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.30
Indio.......	0.30	1.20	1.45	0.20	0.00	0.00	0.00	0.50	0.00	0.00	0.75	1.00
Carson City (Reno.)	2.56	1.49	1.33	0.87	0.61	0.43	0.17	0.13	0.28	0.41	1.50	2.19

RELATIVE HUMIDITY AT CARSON CITY.

75th meridian time.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	%	%	%	%	%	%	%	%	%	%	%	%
8 a. m.......	80	81	77	71	70	60	56	61	63	71	75	74
8 p. m...... .	65	71	56	35	41	29	26	30	31	40	55	50

The expedition to Reno, Nev., is being furnished with some improved pieces of apparatus, constructed by the cooperation and devices of Prof. C. F. Marvin, U. S. Weather Bureau, and embodying some suggestions furnished by Mr. Lyman T. Briggs, U. S. Department of Agriculture, and Mr. Edgar Buckingham, Bureau of Standards. These include a measuring micrometer for differential changes in the level of a water surface, an electrical device for maintaining a fixt surface level and measuring the cubic contents of evaporated water, an improved Piche evaporimeter, an anemometer transformed for reading wind velocities in kilometers per hour instead of miles per hour. The evaporating pans and the auxiliary contrivances, such as towers for the equipotential surfaces, tubes for the Stefan formula, and so on, will be constructed at Reno.

Prof. F. H. Bigelow and Mr. H. L. Heiskell go to Reno from Washington, D. C, and will be assisted there by Mr. Harry O. Geren, Section Director, and such further assistants as may be found necessary in reading the thermometers and other pieces of apparatus.

TORNADO AT PARKERSBURG, W. VA.

[Compiled from reports furnished by H. C. Howe, Section Director.]

On the afternoon of Monday, July 22, 1907, a small tornado past over Belpre, Ohio, and Parkersburg, W. Va., two places situated directly across the Ohio River from each other. The windstorm struck Parkersburg at 5:26 p. m., seventy-fifth meridian time, and lasted about three minutes. It came very suddenly and was accompanied by a loud roaring noise. Observers along the river front or at vantage points state that a funnel-shaped cloud, dark gray in color, suddenly shot down from the black clouds overhanging the city, and that the small end of this cloud traveled very near the ground and rotated rapidly. Lightning accompanied the storm, but no vivid flashes were seen. The rainfall was light and no hail was observed.

The storm moved from the northwest to the southeast. Its track could be traced for about one and one-fourth miles, but the greatest width was only about three hundred feet. The southern limit of the storm past two blocks north of the local office of the Weather Bureau in Parkersburg. By the meteorograph record at the office the wind from 5:27 to 5:28 p. m. blew at the rate of 54 miles per hour, but for a 5-minute interval the mean velocity was only 39 miles per hour; the direction was northwest, tho previous to the storm it had been southwest. The pressure, as shown by the barograph, rose suddenly one-tenth of an inch, from 29.85 to 29.95 inches (sea-level).[1] The temperature at 4:30 p. m. was 92°; at about 5:25, 90°; but at 6:00 p. m. it had fallen to 67°. The recorded precipitation amounted to 0.24 inch.

In addition to the statements of observers that the cloud had a whirling motion much may be judged as to the character of the storm from a study of the débris. Nearly all the trees and tops of trees fell toward the north or northeast, and one roof that was removed was thrown toward the north. Windows were broken on the north sides of buildings. One tree standing near the east side of a house was broken down and another tree was apparently twisted off. In Belpre a small house, about forty feet long, sixteen feet wide, and a story and a half high, was blown from its foundation, which consisted of brick piers rising about three feet above the ground. The house was moved about fifty feet in a northeast direction, turned nearly one-quarter round, and completely wrecked. An outbuilding which had stood about forty feet northwest of the house was blown some distance in a nearly opposite direction (southwest).

No lives were lost, but two persons were slightly injured in the wrecking of the house at Belpre. Several smokestacks and roofs were blown off their buildings. Some trees were destroyed by being uprooted or broken off near the ground, and many other tree tops were damaged. Considerable damage was done to telephone wires, but the total pecuniary loss from the storm is estimated at only $5000.

AUSTRALIAN CLIMATOLOGY.

Pending the reorganization of the federal department of meteorology for all Australia the individual state governments still continue their meteorological publications, and we recently received from the meteorological department of the Sydney Observatory several sets of charts illustrating the general characteristics of the meteorology of this continent. Among these charts we note the following:

(1) The weather chart published daily in the Daily Telegraph at Sydney. A few special separate prints of these important charts are struck off for distribution, and they afford the only basis as yet available for meteorologists to study the movements of highs and lows in that region. The highs approach Australia from the southwest and move eastward or northeastward toward the equator. The lows approach from the northwest or west and move eastward or southeastward, that is, away from the equator. The descending air of the highs gives the interior of tropical Australia its characteristic clear, hot, dry, weather, analogous to that of the tropical deserts of Africa, Arabia, Syria, northern India, New Mexico, Arizona, Texas, Peru, Chili, and the California Peninsula. The Australian Continent does not extend far enough south to allow antarctic highs and blizzards to reach its southern latitudes, analogous to those that descend from latitude 60° north into the interior of the United States of America. If such exist they are probably dissipated by the influence of the southern oceans. This great ocean surface not only mollifies the low temperatures of the highs, but by its smoothness allows the formation and maintenance of the steady stream of strong west winds between latitudes 40° and 55° south. These winds are in fact the mechanical representatives of the westerly winds that precede our American highs. The alternations of wind and calm that attend our highs are feebly represented in the Antarctic region, where the wind is more steady and calms are unknown, because of the steady supply of descending air. In forecasting the weather, as is done daily from these Australian maps, one must bear in mind this tendency of highs and lows to be rapidly converted into a long

[1] The rise in station pressure was from 29.20 to 29.30, the station barometer at Parkersburg being 638 feet above sea level.